

Short Report

The need for measures to prevent “solitary deaths” after large earthquakes – Based on current conditions following the Great Hanshin-Awaji Earthquake

Yoshitsugu Fujita MD^a, Ken Inoue MD PhD^{b,*}, Nobuhiko Seki MD PhD^c,
Takeo Inoue MD PhD^d, Akira Sakuta MD PhD^e, Teruomi Miyazawa MD PhD^a,
Kenji Eguchi MD PhD^c

^a Department of Internal Medicine, Division of Respiratory and Infectious Diseases, St Marianna University School of Medicine, Kanagawa 216-8511, Japan

^b Department of Public Health, Fujita Health University School of Medicine, 1-98, Dengakugakubo, Kutsukake-cho, Toyoake, Aichi 470-1192, Japan

^c Department of Internal Medicine, Division of Medical Oncology, Teikyo University School of Medicine, Tokyo 173-8605, Japan

^d Department of Urology, St Marianna University School of Medicine, Kanagawa 216-8511, Japan

^e Seigakuin Schools, Saitama 362-8585, Japan

Received 27 March 2008; accepted 18 May 2008

Available online 8 August 2008

To the Editor

On January 17, 1995 at 5:46 AM, a large earthquake with its epicenter at the northern end of Awaji Island in Hyogo Prefecture struck with a magnitude of 7.3 on the Richter scale. Its magnitude was originally described as 7.2, but this was later revised to 7.3. This event is generally known as the Great Hanshin-Awaji Earthquake. Prior to January 11, 2000, there were said to be 6434 dead and 43,792 injured as a result of the Great Hanshin-Awaji Earthquake. Many lives were lost, because of this large, unexpected earthquake, and the event was a massive tragedy. Recent years have seen media reports of “solitary deaths”, or instances where single residents of temporary housing in Hyogo Prefecture, which is where victims of the Great Hanshin-Awaji Earthquake live, die without anyone noticing. Deaths at 292 residences in Hyogo Prefecture were investigated by prefectural police and deemed to be a “solitary death” from 2000 to 2007; their findings served as the basis for statistics collected and reported by newspapers etc. Based on these statistics, the current study discusses “solitary deaths” after an earthquake and “solitary deaths” in general and it also examines measures to prevent “solitary deaths” in the future.

Annual deaths due to “solitary death” for the 292 temporary residences in Hyogo Prefecture are shown in Fig. 1, for the period studied. As of 2002, annual deaths climbed to more than 60. The 60 deaths deemed “solitary deaths” in 2007 involved individuals ranging from 53 to 91 years of age; median age was 75.5 years. This result indicates that “solitary deaths” of the elderly after an earthquake continue to climb over the long term.

From the perspective of “solitary deaths” of the elderly, safe infrastructure tailored to the elderly and the need to prevent psychological and social isolation are crucial measures to prevent “solitary deaths” of the elderly.¹ After an earthquake, victims may also suffer posttraumatic stress disorder (PTSD).^{2,3} That is, residents in temporary housing after an earthquake should be visited frequently, so that they do not feel or become isolated, and communication must be further encouraged. In addition, factors leading to “solitary deaths” must be promptly examined. Japan has witnessed a series of large earthquakes since the Great Hanshin-Awaji Earthquake like the 2000 Western Tottori Earthquake, the 2004 earthquakes off Tokaido and in Niigata, the 2005 earthquake off West Fukoka, and the 2007 Noto earthquake, Central Mie earthquake, and Niigata-Chuetsu Earthquake. Measures to prevent “solitary deaths” after an earthquake and prevent “solitary deaths” in general must be promptly implemented at the same time as earthquake relief measures with the cooperation of administrative bodies, the police, the medical establishment, and local communities.

* Corresponding author. Tel.: +81 562 93 2453; fax: +81 562 93 3079.
E-mail address: ke-inoue@fujita-hu.ac.jp (K. Inoue).

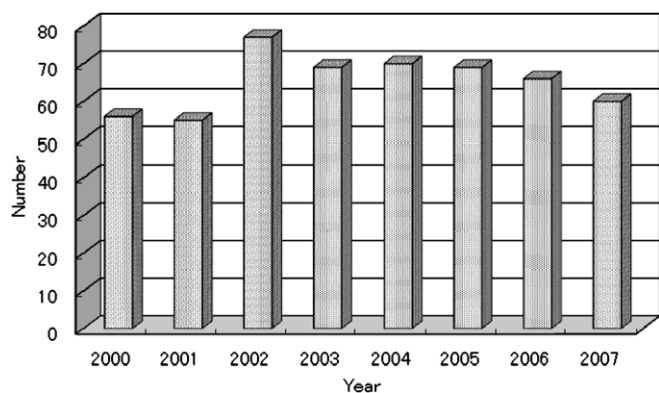


Fig. 1. The number of “solitary deaths” of the elderly for the 292 temporary residences in Hyogo Prefecture from 2000 to 2007.

References

1. Matsuzawa A, Tamiya N, Miyaishi S, et al. Background factors among deaths of the elderly in cases of forensic medicine for measures of solitary deaths. *Jpn J Public Health* 2007;**54**:494 [in Japanese].
2. Altindag A, Ozen S, Sri A. One-year follow-up study of posttraumatic stress disorder among earthquake survivors in Turkey. *Comp Psychiatr* 2005;**46**:328–33.
3. Lai TJ, Chang CM, Connor KM, et al. Full and partial PTSD among earthquake survivors in rural Taiwan. *J Psychiatr Res* 2004;**38**:313–22.